

What is claimed is:

1. A method of joining together a multiplicity of optical elements on a basic body, the individual optical elements being positioned on the basic body and subsequently connected to the basic body by a galvanoplastic joining technique.
2. The method as claimed in claim 1, wherein the basic body is galvanically formed.
3. The method as claimed in claim 1, wherein the optical elements comprise mirror facets.
4. The method as claimed in claim 3, wherein the faceted mirror is used for beam mixing and field imaging for an EUV lighting system.
5. A method of connecting a multiplicity of optical elements to a basic body, in particular for producing a faceted mirror, for example for beam mixing and field imaging for an EUV lighting system, the multiplicity of optical elements being aligned on an auxiliary structure and the optical elements subsequently being made to grow together galvanoplastically on their rear sides, forming a supporting structure as the basic body.
6. The method as claimed in claim 5, wherein the basic body is provided with reinforcements.
7. The method as claimed in claim 6, wherein the reinforcements are integrated galvanically.
8. The method as claimed in claim 7, wherein the body is designed in the form of a honeycomb structure.
9. The method as claimed in claim 5, wherein the basic body is provided with cooling channels.

10. The method as claimed in claim 9, wherein the cooling channels are formed in the galvanoplastic process by cores which are subsequently removed.
11. The method as claimed in claim 9, wherein the cooling channels are formed by placed-in tubes, which grow in during the galvanoplastic process.
12. The method as claimed in claim 5, wherein the auxiliary structure is formed by a plurality of parts with spacers or positioners lying in between.
13. The method as claimed in claim 5, wherein the optical elements on the basic body combine into a faceted mirror.
14. The method as claimed in claim 13, wherein the faceted mirror is used for beam mixing and field imaging for an EUV lighting system.
15. A faceted mirror for beam mixing and field imaging for a lighting system, a multiplicity of mirror elements being arranged on a basic body, wherein the mirror elements are connected to the basic body by a galvanic joining technique.
16. The faceted mirror as claimed in claim 15, wherein the basic body is galvanically formed.
17. The faceted mirror as claimed in claim 15, wherein the mirror elements are provided on their rear sides with a supporting structure as the basic body, with which they are galvanoplastically connected.
18. The faceted mirror as claimed in claim 17, wherein the body is provided with reinforcements.

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19. The faceted mirror as claimed in claim 18, wherein the reinforcements are produced galvanoplastically.
20. The faceted mirror as claimed in claim 19, wherein the reinforcements are made in the form of a honeycomb structure.
21. The faceted mirror as claimed in claim 17, wherein the body is provided with cooling channels.

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